Further to the above hypotheses, more theoretically controversial hypotheses about the role of verbal communication in social interaction and the selection of pretend props were also investigated to question the claims that:

4. Theory of mind status will be reflected in differences in the use of speech for the self-regulation of activities.

5. Theory of mind understanding is reflected in children’s selection of substitute props for pretend play.

The methodology used to explore the above claims rests on assessments of converging evidence from both direct behavioral measures and the judgments of observers. It also involved an element of cross-cultural comparison designed to exploit the same set of measures to assess similarities and differences in patterns of social interaction across samples of children drawn from two populations (English and Singaporean). The aim here was to determine the extent to which hypotheses about the relations between measures of the nature and content of social interaction and the theory of mind status of dyads are independent of cultural status.

The central aim of the thesis was to evaluate theoretical claims about the expected convergence of quality of social interaction and evidence of the awareness of the mental states of others. Correlational evidence was used to test these hypotheses. No claims were made about the causal relations between these two sets of abilities. The thesis holds that until clear evidence of the proposed association between such measures has been established, theoretical arguments about the nature of causality will remain empirically ungrounded. In conclusion, by exploring this new research agenda through addressing the role of ToM understanding in the context of social interaction, and by involving a consideration of the symmetry in children’s and other people’s ToM ability, the author attempted to advance our understanding of children’s developing theories of the mind.

The PhD was awarded by the University of Nottingham, U.K.

Anaerobic Fitness of Young People

Asst. Prof. Michael Chia, School of Physical Education, NIE

It is paradoxical that less should be known about the anaerobic function of young people in comparison to the abundant information available on their aerobic function, given that both play integral roles in the natural habitual physical activities of young people. Although the metabolic demands of supra-maximal exercise are similar in both adults and young people (i.e. adenosine triphosphate is needed at a rapid rate to sustain the level of exercise), the physiological responses of young people to this type of exercise are markedly different from those of adults. This is not surprising since children are not adults packed into small bodies. It is imperative that more research into young people’s anaerobic fitness is conducted to provide a more comprehensive understanding of the capabilities of the exercising child.

This thesis examined the development of anaerobic fitness of British young people between the ages of 10 and 17 years by juxtaposing the results of Studies I and IV. Both peak power (PP) and mean power (MP) in the Wingate Anaerobic Test (WAnT) increased greater than the corresponding increases in body mass with age. The tempo of the development of anaerobic fitness between the sexes was different and by age 17 years, the boys were significantly more powerful than the girls, despite no sex differences in post-exercise blood lactate concentration. The stability of anaerobic fitness between the age of 10 years and 14 months later was high, but
there was poor tracking of fitness among subjects between ages 12 and 17 years. Allometric modelling of the longitudinal data revealed mass exponents that were markedly different from 1.0, demonstrating that the conventional use of simple ratio standards to model the data was inappropriate. Sample-specific allometric modelling of data is recommended as a viable alternative in describing the longitudinal development of anaerobic fitness in young people.

Study II examined the protocol issues in the WAnT. Results indicated that power adjusted for the inertia of the ergometer was seven to 20% greater than the unadjusted value; power averaged over one second was eight to 12% greater than power averaged over five seconds; the percentage aerobic contribution over a WAnT20 seconds was lower than over a WAnT30 seconds (14-36% vs. 18-44%) for assumed mechanical efficiency values of 13 and 30%; and that post-WAnT blood lactate concentration in both sexes peaked by two minutes.

Studies IIIA and IIIB examined the aerobic-anaerobic nexus and the WAnT performances in relation to thigh muscle volume (TMV) as determined using a magnetic resonance imaging technique. Results demonstrated that young people's WAnT oxygen uptake amounted to 71% of peak over WAnT30 seconds compared to 61% of peak over WAnT20 seconds; when body mass or TMV was statistically controlled for, there was no significant relationship between peak and WAnT power. WAnT power allometrically modelled to either body mass or TMV was more appropriate, indicating that sample-specific allometric modelling of data is preferable to the use of simple ratio standards.

The PhD was awarded by the University of Exeter, U.K.

---

Publication of Papers Presented at the 12th ERA Conference (1998)

The 12th ERA Annual Conference was held on 23-25 November 1998, based on the theme "Enhancing Learning: Challenge of Integrating Thinking and Information Technology into the Curriculum". The Association had Mr Peter Chen, Senior Minister of State for Education as the Guest-of-Honour at the Opening Ceremony. Keynote speakers were Professors Rod Cerber (University of New England, Australia), Bridget Somekh (University of Hudderfield, U.K) and Thomas Jackson (University of Hawaii). The Ruth Wong Memorial Lecture was presented by Emeritus Professor Warwick Elley (formerly of the University of Canterbury, New Zealand).

Copies of the two-volume book containing more than 100 conference papers may be purchased for $50 (excluding postage). The book, entitled "Enhancing Learning", is edited by Asst. Prof. Margit Waas.

Enquiries: A/P Toh Kok Aun
School of Science
National Institute of Education
469 Bukit Timah Road
Singapore 259756

Phone: 460 5391
Fax: 469 8928
Email: katoh@nie.edu.sg